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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,750	08/07/2006	Cornelis Pieter Janse	NL 040172	5784
24737 7590 12/26/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER PAUL, DISLER	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 12/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,750	Applicant(s) JANSE ET AL.	
	Examiner Disler Paul	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10,13-16,17,20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen (US 5,680,467).

Re claim 1, Hansen disclose of the device for acoustic feedback compensation, the device comprising: an adaptive filter for providing an acoustic feedback compensation signal (fig.2 wt (27); col.3 line 52-55), a first combination unit for combining the acoustic feedback compensation signal with an input signal so as to produce a residual signal (fig.2 wt (23); col.3 line 37-40) ; a noise unit for producing a noise signal (fig.2 wt (33); col.4 line 5-8) ; an adjustment unit for adjusting coefficients of the adaptive filter (fig.2 wt (31); col.7 line 1-10), and a second combination unit for combining the residual signal and the noise signal so as to form an output signal, wherein the noise unit is arranged for providing a noise signal having a frequency spectrum controlled by the residual signal (fig.2 wt (25); col.4 line 57-62/residual circuit for controlling adaptive filter).

Re claim 2, the device according to claim 1, wherein the noise unit is arranged for providing a noise signal in accordance with an auditory masking model (col.7 line 40-65/noise with masking models).

Re claim 15 has been analyzed and rejected with respect to claim 2.

Re claim 4, the device according to claim 1, wherein the noise unit is arranged for repeatedly adapting the frequency spectrum of the noise signal to the residual signal (col.2 line 14-17; col.4 line 22-25).

Re claim 8, the device according to claim 1, wherein the adjustment unit is coupled to the first combination unit and the noise unit so as to adjust coefficients of the adaptive filter on the basis of the residual signal and the noise signal (fig.2 wt (31,23,33)/all coupled).

Re claim 9, the device according to claim 8, wherein the adjustment unit is arranged for a constant mis-adaptation of the adaptive filter so as to achieve a high adaptation speed (col.1 line 60 & col.2 line 5).

Re claim 10, the device according to claim 1, further comprising an amplification unit (fig.2 wt (9); col.3 line 7).

Re claim 13, the system for sound amplification, comprising at least one microphone, at least one loudspeaker and a device according to claim 1 (fig.2).

Re claim 17 has been analyzed and rejected with respect to claim 4.

Re claim 3, the device according to claim 1, However, Hansen fail to disclose of the specific wherein the noise unit is arranged for providing a noise signal having a smaller amplitude than the residual signal at frequencies where the residual signal has a relatively large amplitude and having a larger amplitude than the residual signal at least at some frequencies where the residual signal has a relatively small amplitude. However, Hansen did disclose of controlling both the amplitude of the noise and residual signal and further more of having a controller for controlling the amplitude level of the noise signal for adapting the filter for low correlation between the signals (col.5 line 65 & col.6 line 5; col.4 line 20-25; col.7 line 58-60). Thus, with the above disclosure, it is inherent of the existence of providing a noise signal having a smaller amplitude than the residual signal at frequencies where the residual signal has a relatively large

amplitude and having a larger amplitude than the residual signal at least at some frequencies where the residual signal has a relatively small amplitude.

Re claim 16 has been analyzed and rejected with respect to claim 3 above.

Re claims 14,20 have been analyzed and rejected with respect to claim 1 above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 5,680,467) and further in view of Gupta (US 7,203,261 B2).

RE claim 6, the device according to claim 1, wherein the noise unit comprises a random unit for producing a random signal (col.5 line 1-7), However, Hansen fail to disclose of the specific wherein the

random signal being a random phase unit. However, Gupta disclose of a system wherein the similar method of producing a random phase (fig.3 (210); col.11 line 15-35) for the purpose of obtaining independent phase correcting value for the receive signal. Thus, taking the combined teaching of Hansen and Gupta as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention, to have modify Hansen by incorporating the similar method of producing a random phase for the purpose of obtaining independent phase correcting value for the receive signal.

Re claim 19 has been analyzed and rejected with respect to claim 6.

5. Claims 5,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 5,680,467).

Re claim 5, the device according to claim 4, wherein the noise unit is arrange for adapting the frequency spectrum of the noise at certain interval (fig.4; col.5 line 1-15), However, Hansen fail to disclose of the specific wherein the intervals being of less than 100 ms, preferable less than 30 ms, more preferably about 15 ms. However, official notice, is taken the concept of adapting at the intervals being of less than 100 ms, preferable less than 30 ms, more preferably about 15 ms is simply the inventor's preference, thus it would have been obvious for one of the ordinary skill in the art at the time of

the invention to have modify Hansen by incorporating the specific of adapting at the intervals being of less than 100 ms, preferable less than 30 ms, more preferably about 15 ms for having low autocorrelation over any span of time.

RE claim 18 has been analyzed and rejected with respect to claim 5 above.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 5,680,467) and further in view of Hugas et al. (US 7,068,798 B2).

RE claim 11, the device according to claim 1, However, Hansen fail to disclose of the further comprising a dynamic echo suppressor arranged for suppressing echoes in the residual signal. However, Hugas et al. disclose of a system wherein comprising a dynamic echo suppressor arranged for suppressing echoes in the residual signal (fig.1-2 wt (16); col.3 line 10-27) for purpose of preventing the system form electro-acoustically coupling and said system must be capable of reducing the noise so as to prevent the noise level from increasing or being reinforce. thus, taking the combined teaching of Hansen and Hugas as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify Hansen by incorporating the system wherein comprising a dynamic echo suppressor arranged for suppressing echoes in the residual signal for

purpose of preventing the system from electro-acoustically coupling and said system must be capable of reducing the noise so as to prevent the noise level from increasing or being reinforced.

Re claim 12, the device according to claim 11, wherein the dynamic echo suppressor is arranged for receiving the acoustic feedback compensation signal, the input signal and the residual signal so as to produce an echo suppressed residual signal (fig.1-2 wt (16)).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 5,680,467) and further in view of Gupta (US 7,203,261 B2) and further in view of Rogers (US 6,823,176 B2).

Re claim 7, the device according to claim 6 with the noise masking with residual and noise signal level and pseudo noise phase signal, However, Hansen and Gupta as a whole, fail to disclose of the specific wherein the noise masking unit comprises a spectrum unit for producing a frequency spectrum of the signal, a magnitude unit for determining the magnitude of the frequency spectrum, a noise magnitude unit for determining the magnitude of masked noise relative to the magnitude of the frequency spectrum, and a reconstruction unit for reconstructing a masked noise signal on the basis of the magnitude of masked noise and the random signal. However, Roger disclose of a

system wherein the concept of noise masking unit comprises a spectrum unit for producing a frequency spectrum of the signal, a magnitude unit for determining the magnitude of the frequency spectrum, a noise magnitude unit for determining the magnitude of masked noise relative to the magnitude of the frequency spectrum, and a reconstruction unit for reconstructing a masked noise signal on the basis of the magnitude of masked noise and the random noise signal (fig.2 wt (26), fig.3; fig.6-12; spectrum level of tone signal and mask noise with noise produce by random pseudo noise) for the purpose of preventing audio artifact at low level signal. thus, taking the combined teaching of Hansen and Gupta and Roger as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify Hansen and Gupta et al. as a whole, by incorporating the concept of noise masking unit comprises a spectrum unit for producing a frequency spectrum of the signal, a magnitude unit for determining the magnitude of the frequency spectrum, a noise magnitude unit for determining the magnitude of masked noise relative to the magnitude of the frequency spectrum, and a reconstruction unit for reconstructing a masked noise signal on the basis of the magnitude of masked noise and the random noise signal for the purpose of preventing audio artifact at low level signal.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-272-2222. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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